



# NORTHWIND DATABASE

By Alain Leukam

# Analyzing a business model using statistic

- ▣ Business value
  - Improve discount system
  - Performance review of the employees
  - Market demand



**SALE**

# Methodology

- ▣ Hypothesis Testing
- ▣ Weltch Testing
- ▣ ANOVA
- ▣ Cohen'd



# Are orders quantities affected by discounts? At which level of discount?

- ▣ On average 70.0% of discounted products were sold in larger quantities Average order quantity with discount - 26.43 items, without - 21.81 items
- ▣ More products were ordered at the discounts level of 15%, 20% and 25%





# Which employees gave the more discounts? Employees in USA or UK

- ▣ On average, the discounts given by employees from the USA is not different from the discounts given by employees from the UK.
- ▣ More discounts were given in USA compare to UK.
- ▣ The sale politic in USA may be to encourage the employee to offer discount more frequently to customers. This could be an object of further research.



# Does the employees in USA and UK sold the same quantity of product on average?

- ▣ There is a difference between the quantity of products sold in the USA versus the UK.
- ▣ Our research actually showed that the employees in USA sold more product than their counterparts in UK. This is probably linked to their flexibility to offer discount to their customers.



# Processing time

- ▣ There is no significant difference between the processing time per order in the USA versus the UK. The average of the processing times in both country is showing a slight advantage to USA(lower processing time per employee). We can conclude that the employees in the USA are slightly more performant than the employees in UK.



# Further research



1- Shipping companies performance evaluation.

2-Type of customers swayed by discounts.

3-Why employees in USA sold more products than those in UK?